



# Hospital Respiratory Protection Programs: New Resources for Implementation

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# Acknowledgements

- 
- National Institute for Occupational Safety & Health's National Personal Technology Laboratory (NIOSH/NPPTL)
  - The Joint Commission, Dept. Health Services Research
  - Technical Expert Panel and hospitals responding to call for examples of effective practices

## Disclaimer

The findings and conclusions are those of the authors and do not necessarily represent the views of The National Institute for Occupational Safety and Health and The Joint Commission. The information presented is advisory and intended to assist with reinforcing programs and practices for a safe and healthy respiratory protection workplace.

# Disclosures

- The national toolkit was adapted from a California-specific guide, *Implementing Respiratory Protection Programs in Hospitals: A Guide for Respirator Program Administrators*, under Contract no. 254-2011-M-40839 from NIOSH/NPPTL.
- The monograph was funded by the Centers for Disease Control and Prevention (CDC), NIOSH/ NPPTL under Contract no. 254-2011-M-41082.
- All speakers have disclosed that neither they nor their spouses/partners have any financial arrangements or affiliations with corporate organizations that either provide educational grants to this program or may be referenced in this activity.




# Objectives



At the end of this educational activity, the participant will be able to:

- Explain the purpose and rationale for the development of the new respiratory protection program (RPP) resources
- Explain how the RPP resources were developed
- Identify interrelationships and common goals across resources

# Overview

- 
- Importance of the issue
  - Cluster of NIOSH-supported research
    - REACH I and REACH II
  - National Toolkit key points and common goals across resources
  - Process for identifying examples of effective practices, case studies
  - Relationship to Joint Commission activities and joint dissemination strategy
  - Q & A

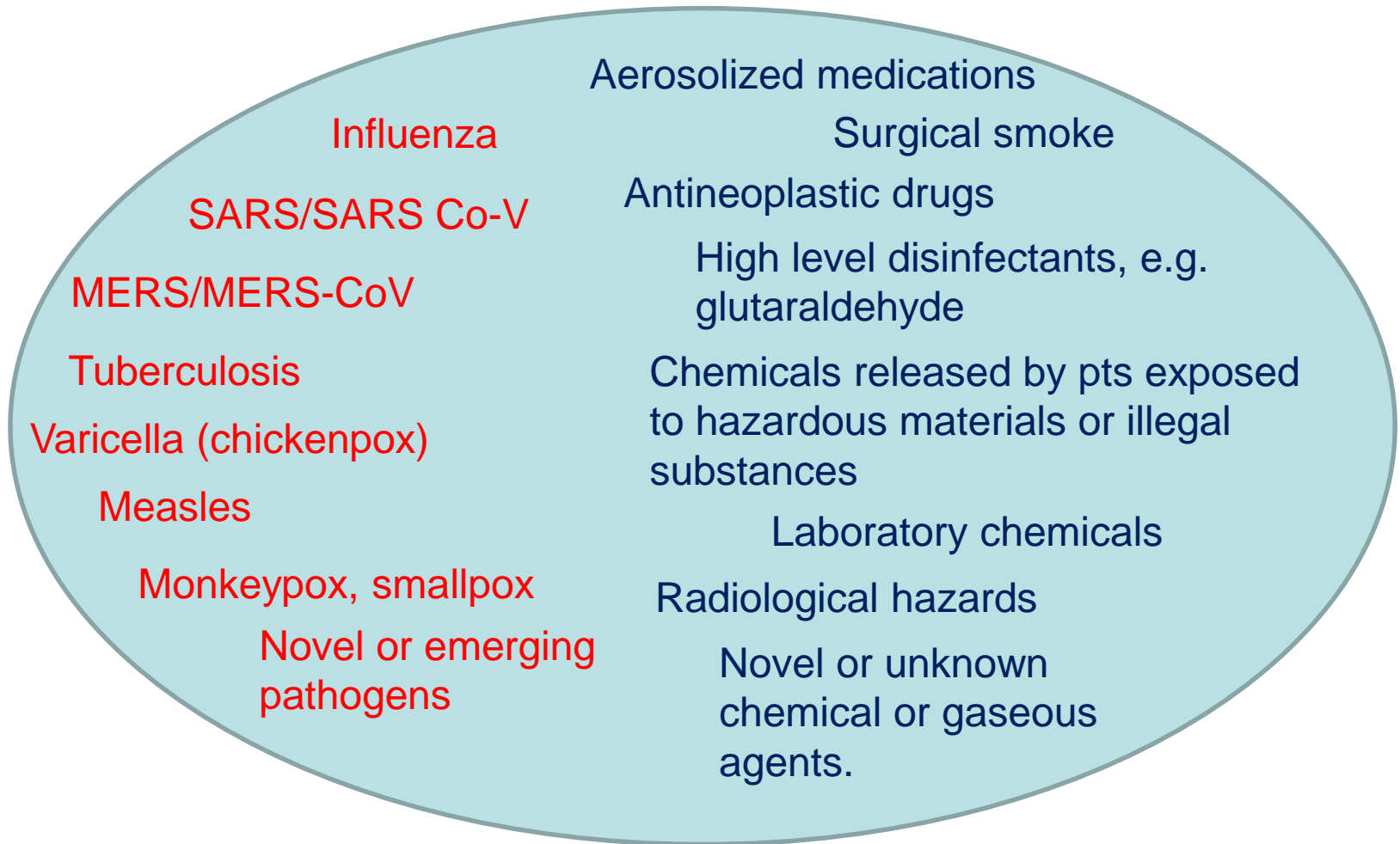


# Importance of Issue

## Healthcare Industry Occupation Statistics

- In 2007 general medical and surgical hospitals reported more injuries and illnesses than any other industry ..... in 2010 hospitals again held the # 1 position of all lost time nonfatal occupational illness and injuries.
- In 2013, nonfatal injuries among workers in healthcare again accounted for the greatest proportion (private industries).
- OSHA reports in FY 2014 respiratory protection was the 4<sup>th</sup> most frequently cited standards' violation.
- OSHA describes healthcare as having a “weak culture of worker safety” ..... “Very poor safety performers.”

# Healthcare workers face a variety of respiratory hazards, both infectious and non-infectious



# Respiratory Protection Programs

## OSHA (29 CFR 1910.134)

- OSHA requires comprehensive **respiratory protection programs (RPPs)** in any workplace where respiratory protection serves as a method for controlling employee exposure to airborne hazards
  
- An **RPP** is a cohesive set of worksite-specific policy and procedures that address the following required elements:
  - Written program with policies and procedures
  - Program administrator
  - Hazard evaluation and respirator selection
  - Medical evaluation for respirator wearers
  - Fit testing for respirator wearers (initial, annual after any physical changes)
  - Proper respirator: use, supply, storage, maintenance, repair and disposal
  - Annual employee training
  - Maintaining records of medical evaluations, fit testing
  - Regular evaluation of the effectiveness of the program with employee input

\* OSHA Respiratory Protection Standard 1910.134-

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=12716&p\\_table=STANDARDS](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=12716&p_table=STANDARDS)

# NIOSH/NPPTL Program Mission

- An estimated 20 million workers use personal protective equipment (PPE) on a regular basis to protect themselves from job hazards.
- The National Personal Protective Technology Laboratory (NPPTL) was created to be the division of NIOSH charged with the mission of preventing disease, injury, and death for the millions of working men and women relying on PPE.
- To accomplish this mission, NPPTL conducts certification\*, surveillance, scientific research, develops guidance, standards and disseminates information.



Photo courtesy of Moldex

\*NIOSH 42 CFR Part 84

Commonly asked  
Questions



How Many?



FACEMASK OR N95?

Seal Check?



Who to  
Ask?



Fit Testing!

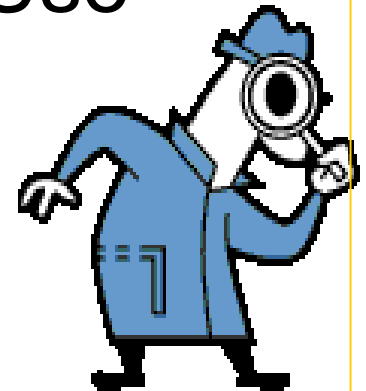


# Healthcare workers are vulnerable!

## Compliance is marginal!

So there needs to be an improved focus on:

- Infection Control Education
- Respiratory Protection Proper Use Practices



# NIOSH Respiratory Protection Program Initiatives

## Respirator Evaluation in Acute Care Hospitals (REACH) I

- Evaluated the use of respiratory protection for influenza exposure among healthcare workers in 16 California hospitals during the H1N1 influenza outbreak of 2009-2010.

## REACH I Intervention and Evaluation (California Toolkit: *Implementing Respiratory Protection Programs in Hospitals: A Guide for Respirator Program Administrators*)

- Continued the work of REACH I by exploring the effectiveness of various interventions for improving respiratory protection programs in California acute care facilities in 2010 and developing a toolkit for California hospitals.

## REACH II

- In 2010, REACH II expanded upon REACH I to assess hospitals' respiratory protection programs in five regions (six states CA, IL, MN, MI, NC, NY) of the US.

## Hospital Respiratory Protection Program Toolkit: Resources for Respirator Protection Program Administrators

- The goal of this initiative (2012-2014) was to develop a national toolkit to assist hospital respirator program administrators in the development and implementation of a respiratory protection program.

## Implementing Hospital Respiratory Protection Programs: Strategies from the Field

- The Joint Commission and NIOSH collaborated to develop an educational monograph designed to assist hospitals with implementation of their RPPs. The monograph features examples, strategies, new resources, and a variety of approaches solicited from the field and vetted through an eight-member expert panel.

# Respirator Evaluation in Acute Care California Hospitals (REACH I)

- Nearly all healthcare workers (n=200) stated they would wear an N95 respirator or higher level of protection when caring for a suspected or confirmed H1N1 patient.....
- and that N95 respirators are more effective at protecting them from influenza than surgical masks.
- The observational data (n=18) indicated improper use of respiratory protective equipment as evidenced by donning and doffing practices.
  - Not performing a seal check
  - Improper strap placement
  - Touching the facepiece upon doffing
- Required OSHA elements demonstrated gaps in hospitals'(n=16) written respiratory protection programs.

Source: Beckman S, Materna B, Goldmacher S, Zipprich J, D'Alessandro M, Novak D and Harrison, R. (2013). Evaluation of respiratory protection programs in California hospitals during the 2009-2010 H1N1 influenza pandemic. *AJIC* ,41, 1024-31.



# REACH II

Purpose: Evaluate hospitals' respiratory protection programs and respirator usage in five regions of the U.S.

Regions: North Carolina, Minnesota/Illinois, New York, Michigan, California

Data set includes:

- 98 hospitals
- 1500 hospital managers, unit managers & healthcare workers (HCW)
- 300 demonstrations of donning & doffing



# REACH II Findings

The REACH II surveys findings indicate hospitals' program gaps with

- formal mechanism for evaluating their RPP
- documenting respirator use, supply, defects, or problems
- maintain their respirators properly
- input from healthcare workers;
- monitoring staff using respirators as required

In over a third of the REACH II hospitals, healthcare workers were unaware of required procedures.

The survey data suggested that hospital managers and unit managers tended to be more aware of recommended/required practice, whereas many healthcare workers were not.

Different responses to questions about respiratory protection infection control dependent on respondent type.

Source: Peterson K, Novak D, Stradtman L, Wilson D, Couzens L [2015]. Hospitals' respiratory protection programs and practices in six American states: A public health evaluation study. AJIC, 43:63-71.

# REACH I & II Common Findings

- Respiratory protection program plans exist on paper
  - Response differences between HCWs, unit & hospital managers regarding operations of RPP.
- Most HCWs recall fit test at hire with minimal updates.
- Fit-testing is the focus...ongoing preparedness training isn't
  - (<15 minutes annually).
- HCWs are unclear about WHEN to use respiratory protection.
- HCWs are unclear about WHAT type of respirator should be used.
- HCWs are unclear about HOW to properly don and doff respirators (strap positions, seal checks, disposal).

Resources:

Ryan White List

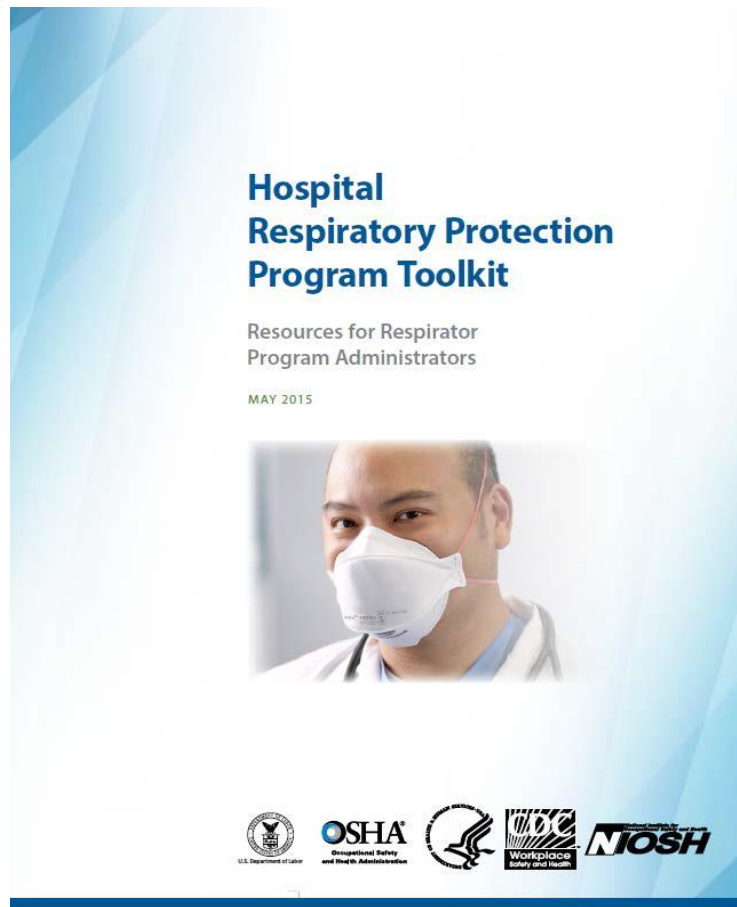
A list of potentially life-threatening infectious diseases, including emerging infectious diseases, and specifying those diseases routinely transmitted through airborne or aerosolized means. <http://www.cdc.gov/niosh/updates/upd-11-02-11.html>

CDC: "Sequence for donning personal protective equipment PPE/Sequence for removing personal protective equipment."

[Online] Available at <http://www.cdc.gov/HAI/pdfs/ppe/ppeposter1322.pdf>

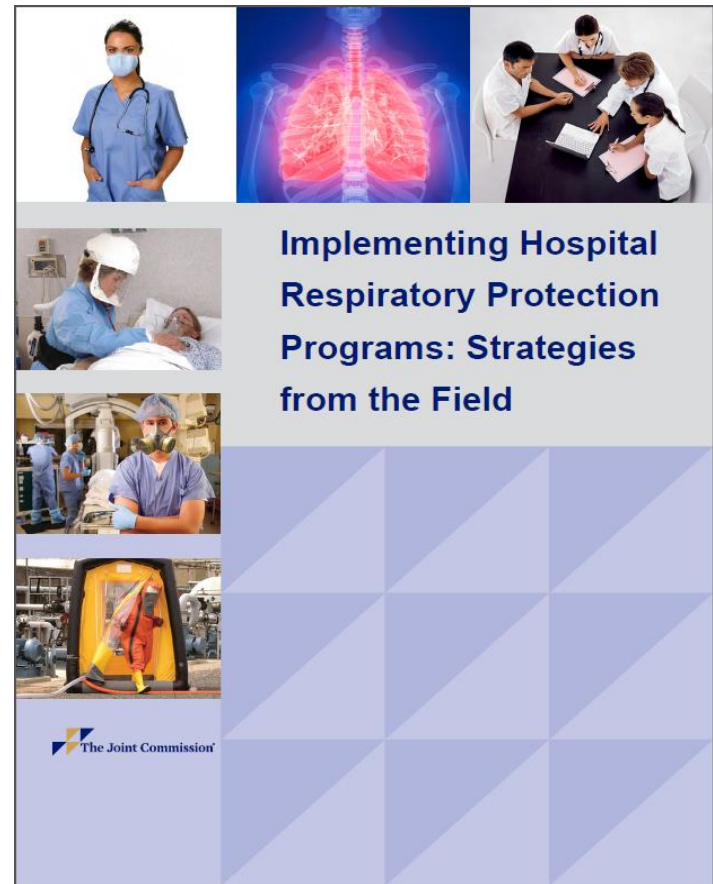
# New Resources

From OSHA & CDC/NIOSH



Available at:  
<https://www.osha.gov/Publications/OSHA3767.pdf/>

From The Joint Commission



Available at:  
[http://www.jointcommission.org/implementing\\_hospital\\_respiratory\\_protection\\_programs\\_strategies\\_from\\_the\\_field](http://www.jointcommission.org/implementing_hospital_respiratory_protection_programs_strategies_from_the_field)

# Purpose of new resources



**Common goal:** To assist hospitals in developing and implementing effective respiratory protection programs.

## Specific objectives

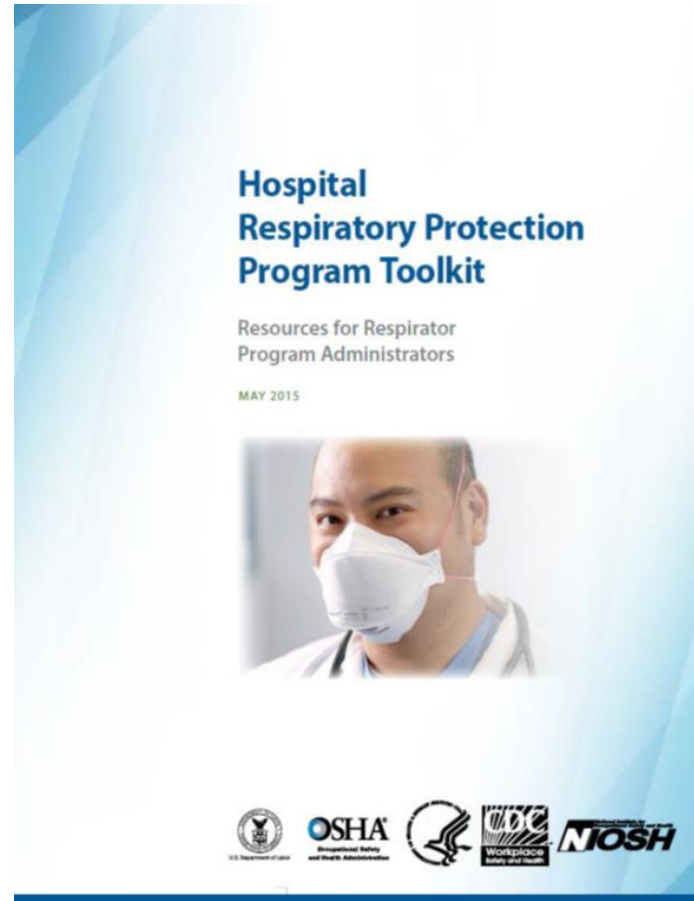
### Toolkit:

To provide practical assistance to those charged with setting up and maintaining a hospital respiratory protection program to protect hospital staff from respiratory hazards.

### Monograph:

To help stimulate greater awareness of the importance of having effective respiratory protection programs and to provide examples of strategies used by hospitals to overcome common implementation challenges.

# OSHA/NIOSH Hospital Respiratory Protection Program Toolkit



# OSHA/NIOSH Toolkit Contents

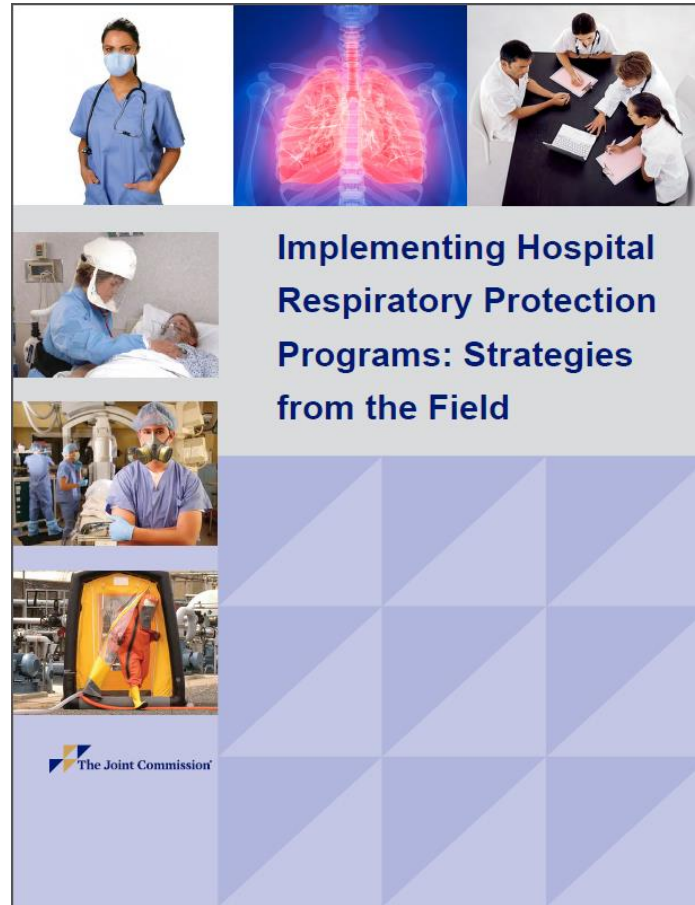
- Why hospitals need a respiratory protection program (RPP)
- Respiratory protection basics a RPP administrator needs to know
- How to implement each component of a RPP (& meet OSHA requirements)
- Respirator selection guide
- Links to many tools & resources including:
  - Template for written RPP
  - Program evaluation checklist

# OSHA/NIOSH Toolkit Development

- NIOSH –NPPTL contracted with CDPH to adapt CA toolkit into national version
  - To refer to existing public health guidance not make new policy
- Co-branded by OSHA & NIOSH and approved by both agencies and ID experts
- User-friendly and accurate based on review by numerous stakeholders and experts



# Implementing Hospital Respiratory Protection Programs: Strategies from the Field (monograph)



# Technical Expert Panel (TEP)

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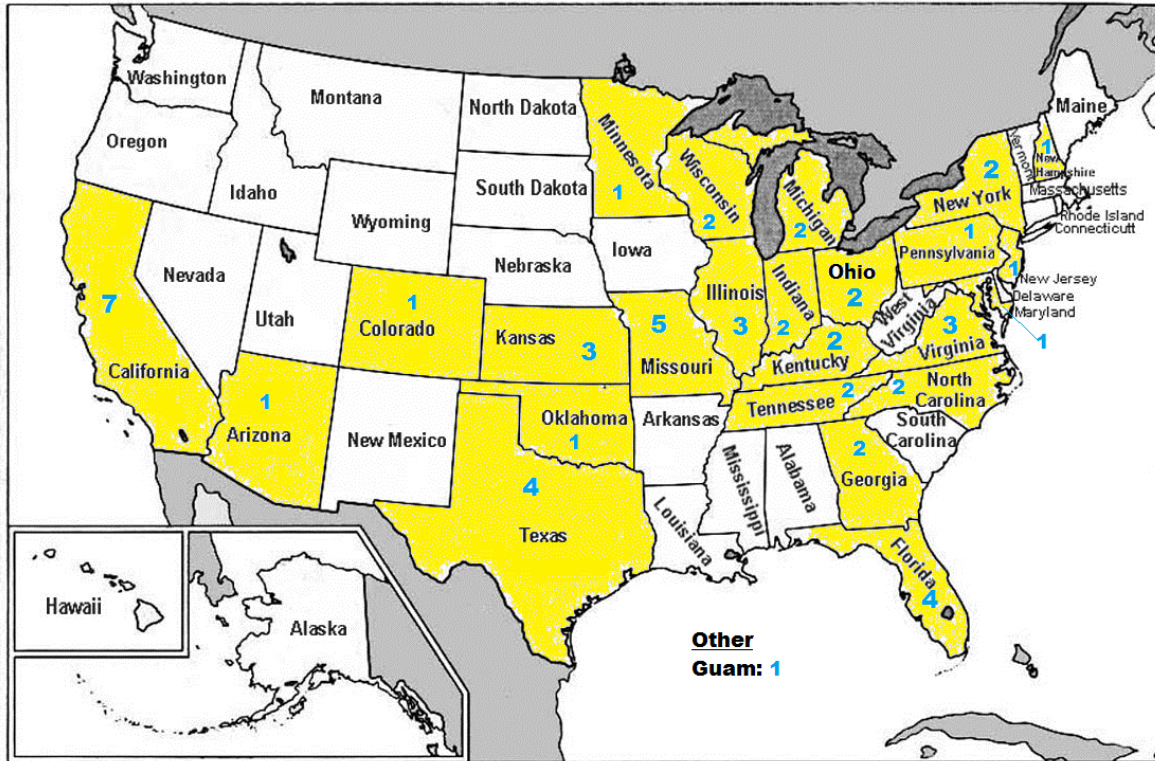
\* = Scientific Advisor

# Monograph development

- With assistance from the TEP, a draft questionnaire to solicit examples of effective practices and to identify common implementation barriers was developed and pilot tested at 12 hospitals
- This questionnaire was then released via a national “Call for Practices” in July-August of 2012
- A Qualtrics™ platform was used to collect responses and practice examples addressing training and education, the role of leadership, safety culture, and successful strategies for overcoming obstacles



# Responses to call for practices



Submissions from 20 organizations were highlighted in monograph (7 included as full case studies)

# Monograph content



Photo courtesy of Bullard Safety

## Introduction and overview of methodology

- Purpose of monograph
- Scope, target audience, and limitations
- Related studies and initiatives
- Project organization and methodology
- Administration of the Respiratory Protection Program
- Program structure and overview of requirements
- Leadership of the RPP and who should be involved
- Authority, cooperation, and accountability
- The role of organizational leadership and the relationship to safety and quality improvement

# Monograph content (cont.)

- Training and fit testing challenges and strategies
  - Who needs fit testing and training?
  - Content and topics for training and education
  - Enhancing the efficiency of fit testing and training
  - Evaluating and improving the effectiveness of training
  - Modifying training according to language and education needs
- Coordination and program evaluation
  - Coordination with planning for emergency preparedness and other noninfectious hazards
  - Evaluating program effectiveness
  - Closing thoughts
- Case studies
- Resource tables



Photo courtesy of NPPTL

# Additional resources

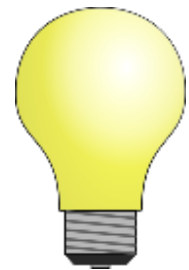
- **AAOHN Respiratory Protection Webkit**
  - 10-module respiratory protection course
  - The course is ideal for the occupational and environmental health professional who wants to learn more about OSHA's Respiratory Protection Standard and the role of the occupational health nurse as the RPPA
  - Free – 90 minutes
  - Self-paced, can access anywhere and anytime – can stop in the middle and resume
  - Offers 1.5 CNE

Available at: <http://aaohnacademy.org/rpp/rpp-program.php>



# Emerging themes from effective program submissions

- Leaders value safety for both workers and patients
- Collaborative multi-disciplinary committees for RPP development & implementation
- All respiratory hazards approach
- Ongoing education with reminders





# Relationship to other Joint Commission activities

- Several standards directly & indirectly addressed
  - e.g. IC 01.04.01 prevent transmission infectious disease
  - EC 02.02.01 EP 9 minimize risks hazardous gases, vapors
- Lean Six Sigma techniques used for RPP improvement
  - Case studies highlighted
  - Related to High Reliability initiative  
<http://www.jointcommission.org/highreliability.aspx>
- Interrelationships between patient and worker safety
  - 2012 monograph, website

# Dissemination

- OSHA / NIOSH Toolkit press release May 14, 2015
  - Mentions Joint Commission monograph
- Each group multiple dissemination strategies
  - Website postings, targeted emails, collaborators, conferences
- Your role



# Happy N95 day !!

- Make sure to celebrate respiratory health and safety
- Recognize your staff who support the program and safe practices



# Questions?



## ■ Contact information

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